

Claims

1. An apparatus comprising a holder (2) for a doctor blade and a blade (1) to be fitted in the holder, characterized in that the holder (2) and/or the blade (1)
5 comprises a composite material, on whose surface or on a part of whose surface a ceramic coating (6) has been made.
2. An apparatus as claimed in claim 1, characterized in that the composite material comprises a fibre-reinforced thermosetting or thermoplastic resin, preferably a
10 thermosetting or thermoplastic resin reinforced with carbon fibre, fibre glass or boron fibre.
3. An apparatus as claimed in claim 1 or 2, characterized in that an anchor structure (5) is embedded in the composite material or fixed to the surface of the
15 composite material, which anchor structure may be made of a metal wire, wire mesh, a metal strip, metal foil, a metal powder, combinations of metal and plastic, a plastic-ceramic powder, a ceramic powder or a combination of these in order to fix the ceramic coating (6) and/or an intermediate layer (7).
- 20 4. An apparatus as claimed in any one of claims 1 to 3, characterized in that the ceramic coating (6) comprises Al_2O_3 , Cr_2O_3 , TiO_2 , ZrO_2 or combinations of them, and the intermediate layer (7) comprises a metal, preferably an Al- or Ni-based metal.
- 25 5. A doctor blade (1), characterized in that the blade (1) comprises a composite material on whose surface or on a part of whose surface a ceramic coating (6) has been made.
- 30 6. A doctor blade (1) as claimed in claim 5, characterized in that the composite material comprises a fibre-reinforced thermosetting or thermoplastic resin, preferably a thermosetting or thermoplastic resin reinforced with carbon fibre, fibre glass or boron fibre.

7. A doctor blade (1) as claimed in claim 5 or 6, characterized in that an anchor structure (5) is embedded in the composite material or fixed to the surface of the composite material, which anchor structure may be made of a metal wire, a metal strip, wire mesh, metal foil, a metal powder, combinations of metal and plastic, a plastic-ceramic powder, a ceramic powder or a combination of these in order to fix the ceramic coating (6) and/or an intermediate layer (7).
8. A doctor blade (1) as claimed in any one of claims 5 to 7, characterized in that the ceramic material comprises Al_2O_3 , Cr_2O_3 , TiO_2 , ZrO_2 or combinations of them, and the intermediate layer (7) comprises a metal, preferably an Al- or Ni-based metal.
9. A blade holder (2), characterized in that the holder (2) comprises a composite material, on whose surface, partly or wholly, a ceramic coating (6) has been made.
10. A holder (2) as claimed in claim 9, characterized in that the composite material comprises a fibre-reinforced thermosetting or thermoplastic resin, preferably a thermosetting or thermoplastic resin reinforced with carbon fibre, fibre glass or boron fibre.
11. A holder (2) as claimed in claim 9 or 10, characterized in that the holder (2) comprises a composite material on whose surface or on a part of whose surface a ceramic coating (6) has been made.
12. A holder (2) as claimed in any one of claims 9 to 11, characterized in that the ceramic coating (6) comprises Al_2O_3 , Cr_2O_3 , TiO_2 , ZrO_2 or combinations of them, and an intermediate layer (7) comprises a metal, preferably an Al- or Ni-based metal.
13. A holder (2) as claimed in any one of claims 9 to 12, characterized in that the inside of the holder (2) is coated with a ceramic.

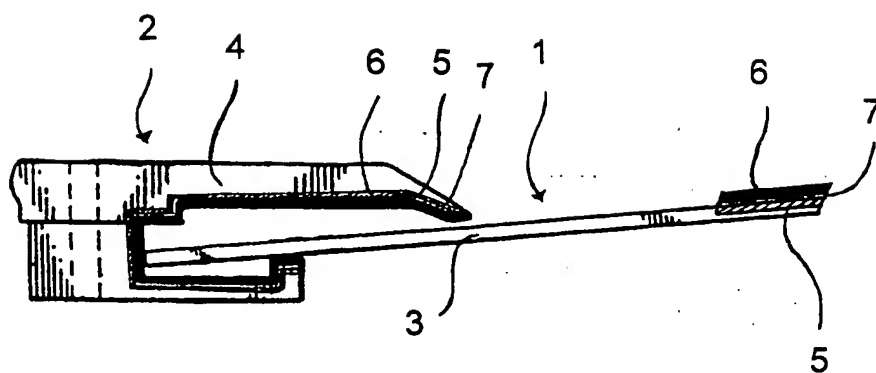


Fig. 1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 99/00459

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: D21G 3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: D21G, B41F, B05C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EDOC, WPI, FULLTEXT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5727468 A (JOSEPH GORDON BLACKWELL), 17 March 1998 (17.03.98), column 4, line 24 - line 34 --	1-13
Y	JP 5338048 A (TEIJIN LTD) 1993-12-21(abstract) World Patents Index (online). London, U.K.: Derwent Publications, Ltd. (retrieved on 1999-10-06). Retrieved from: EPO WPI Database. DW 199404, Accession No. 1994-031397; & JP 5338048 (TEIJIN LTD) 1994-03-24 (abstract) (online)(retrieved on 1999-10-06). Retrieved from: EPO PAJ Database --	1-13
A	US 5408720 A (ALAN A. MILES), 25 April 1995 (25.04.95) --	1-4,9-13

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 99/00459

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>JP 54149787 (ICHIKAWA KEORI KK) 1979-11-24 (abstract) World Patents Index (online). London, U.K.: Derwent Publications, Ltd. (retrieved on 1999-10-06). Retrieved from: EPO WPI Database. DW 198002, Accession No. 1980-02479C</p> <p style="text-align: center;">--</p>	1-13
A	<p>JP 4070341 (DAINIPPON PRINTING CO LTD) 1992-03-05 (abstract). (online) (retrieved on 1999-10-06). Retrieved from: EPO PAJ Database</p> <p style="text-align: center;">-- -----</p>	1-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

30/08/99

International application No.

PCT/FI 99/00459

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 5408720 A	25/04/95	EP 0589017 A FI 935520 A GB 2265917 A JP 6509402 T WO 9321380 A	30/03/94 09/12/93 13/10/93 20/10/94 28/10/93